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CENTRAL INTELLIGENCE AGENCY

INFORMATION REPORT

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1. The VEB Keramisches Werk, Hescho-Kahla, at present controls subsidiary ceramics firms at Gera, Kahla, and Koenitz. On approximately 1 January 1954, however, the VEB Keramisches Werk, Hescho-Kahla, will lose control over the factories at Kahla and Koenitz, which are producing domestic porcelain, and, with the assistance of the subsidiary factory at Gera, will devote itself exclusively to the production of ceramics of a technical nature.

2. Two principal types of porcelain in use for electronics production are termed hartes Porzellan and Calit. The former is being used, among other things, for the production of acid containers for the chemical industry. Calit is reported to have double the durability of hartes Porzellan, but to be more difficult to shape; it is produced largely from steatite (Speckstein) imported from China.

3. The factory is reported to possess a testing plant capable of a voltage of 1,500,000 V. and also a test transmitter of 40 kws. The firm also possesses an electronic microscope.

4. Among the current productions of VEB Keramisches Werk, Hescho-Kahla, are:

   a. Maniperm: This is reported to be a compound of ferric oxide or ferrous oxide and barium sulfate. Ferric oxide is used when the requirement is for permanent magnets, and ferrous oxide for cores for coils (Spulenkernen). Maniperm is intended for extensive use in the electronics industry, as, for example, in loudspeakers.

   b. Ipsolain: This is a nonconductor, said to be made of titanium-rhodium-dioxide. It has a dielectric coefficient of 7000.

5. Hescho-Kahla has recently begun, for the first time, production of a ceramic propeller. The design was proposed originally by VEB Peenewerft, Wolgast, and

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(Note: Washington Distribution indicated by "X"; Field Distribution by "#".)

was delivered by them to Hescho-Kahla in the autumn of 1953. The Design Department of Hescho-Kahla was at first skeptical of the chances of being able to produce a serviceable ceramic propeller. By the middle of November 1953, they had, however, modified the design submitted by VEB Peenewerft and were more optimistic of the chances of success. It had been originally intended by Hescho-Kahla, to use hartes Porzellan for the propeller, but the design office decided that Calit offered greater prospects of success. A major modification to the Peenewerft design has been Hescho-Kahla's decision to dispense with the lead edging of the blades of the propeller, which the Peenewerft had proposed. The designers felt that this lead edging, far from strengthening the blades, would weaken them, as too great a strain would be imposed on the narrow porcelain strips on either side of the lead edging. A sketch of the proposed final design is attached on page 3.

6. There is evidence that the technicians of Hescho-Kahla have not only overcome their initial skepticism, but have developed a lively interest in what is a novel task for them. It is not expected, however, that a prototype of the propeller, the diameter of which is 800 mm, will be produced before January 1954.

7. The VEB Peenewerft design office intends to investigate the possibilities of designing a ceramic propeller of even larger size, should the present venture be successful.

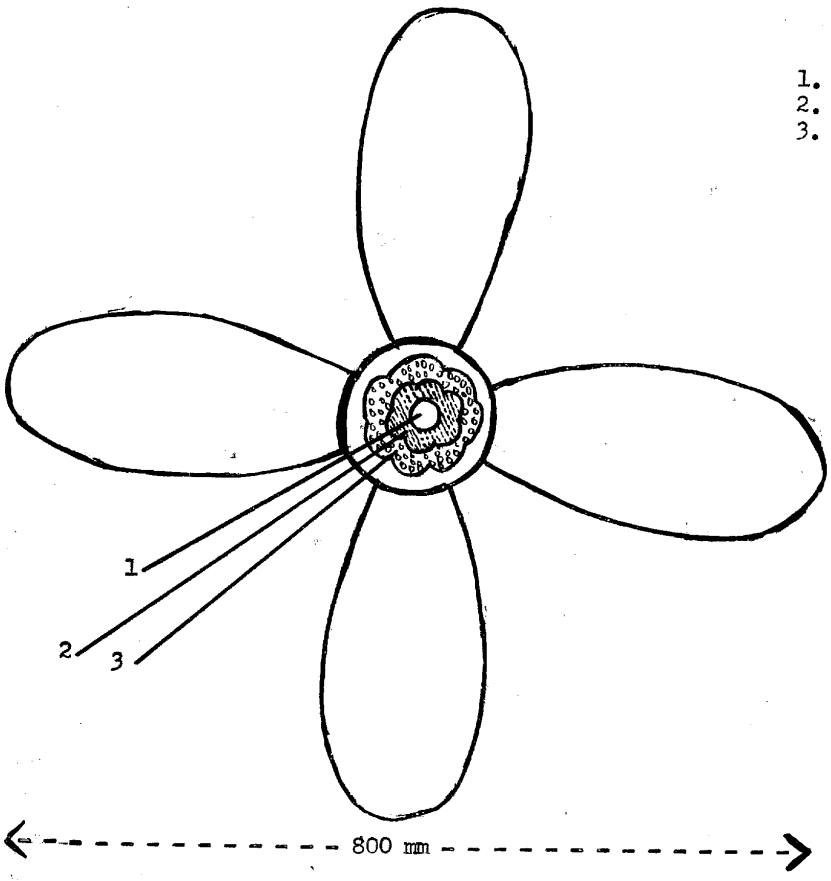
8. The following were known to be employed in the VEB Keramisches Werk, Hescho-Kahla, in August 1953:

Head of the Research Department:	Pertsch
Head of Design of Office:	Rauch
Head of Technical Inquires Department: (Techn. Kundendienst)	Dipl. Ing. Schmidt Heider
Model Construction Department:	Muenz - Head
Testing Ground:	Morgenstern Beckman Koechner
Mechanical Testing Ground:	Hesselbart Rosenkranz

9. In early October 1953, considerable disturbance to the firm's work - and the staff's morale - was caused by the sudden arrest, for unknown reasons, of the Deputy Technical Director; this was increased a day or so later, when the Technical Director himself disappeared.

Design for Ceramic Propeller
(not to scale)

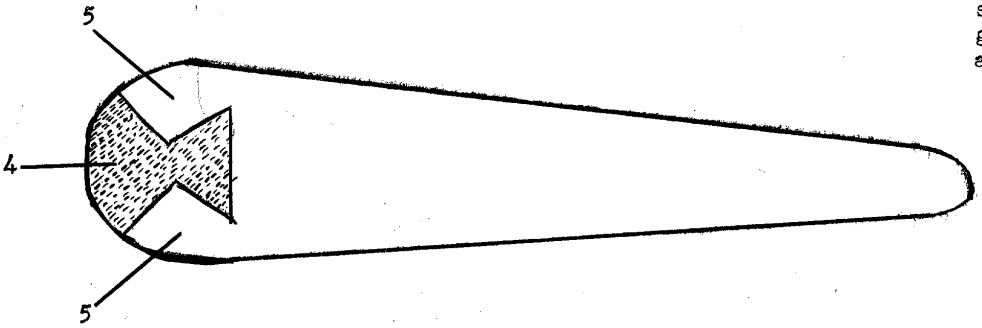
Sketch "A" - Front view



Key

1. Propeller shaft
2. Steel collar
3. Cement between steel and ceramic part.

Sketch "B" - Cross section of blade.



Key

4. Lead edging proposed by VEB Peenewerft.
5. Points where VEB Keramisches Werk Hescho-Kahla think stress would be too great if 4 were accepted.